(No Model.)

J. W. LANGFITT.

CAR COUPLING.

No. 260,759. Patented July 11, 1882.

Fig. 1

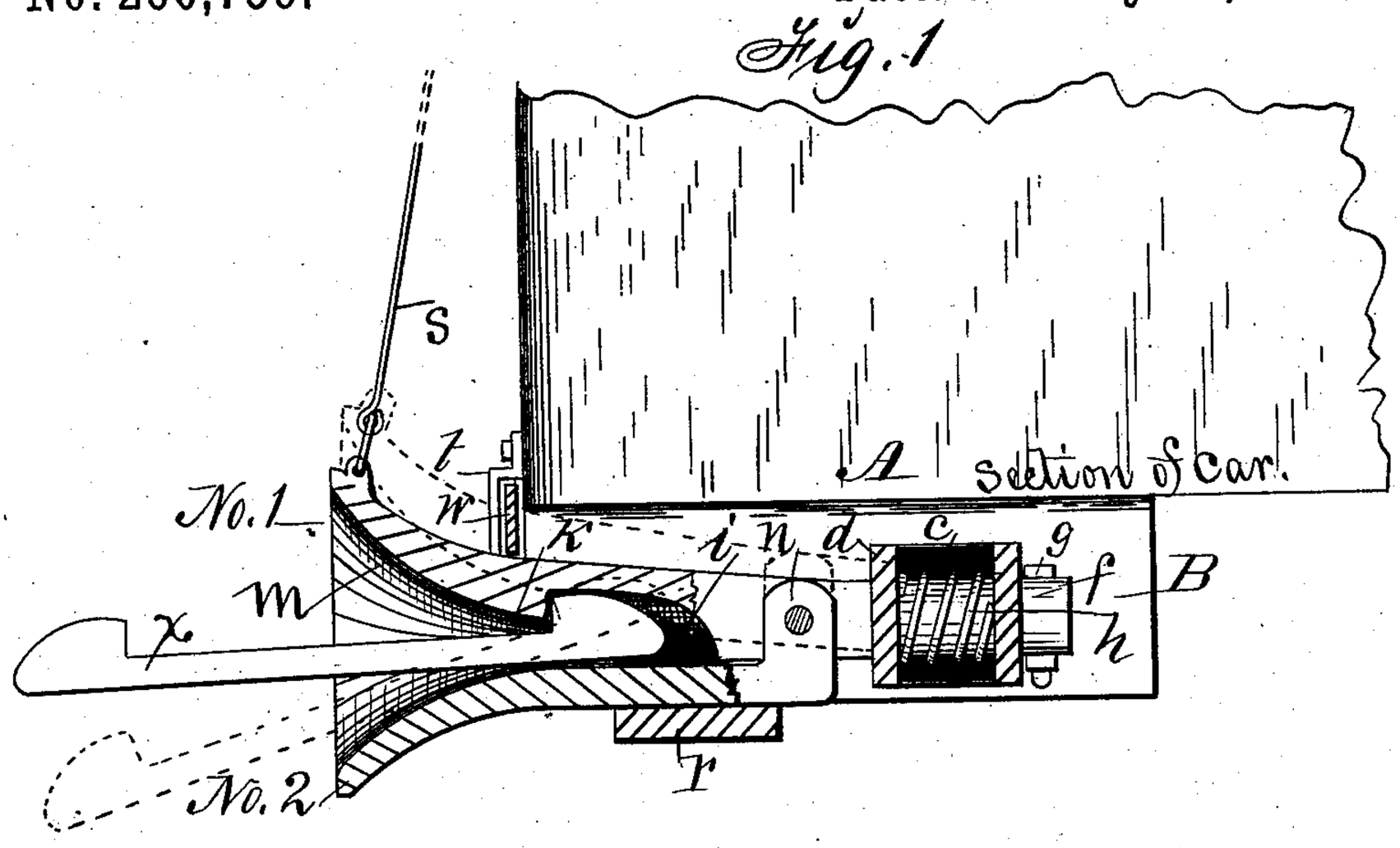
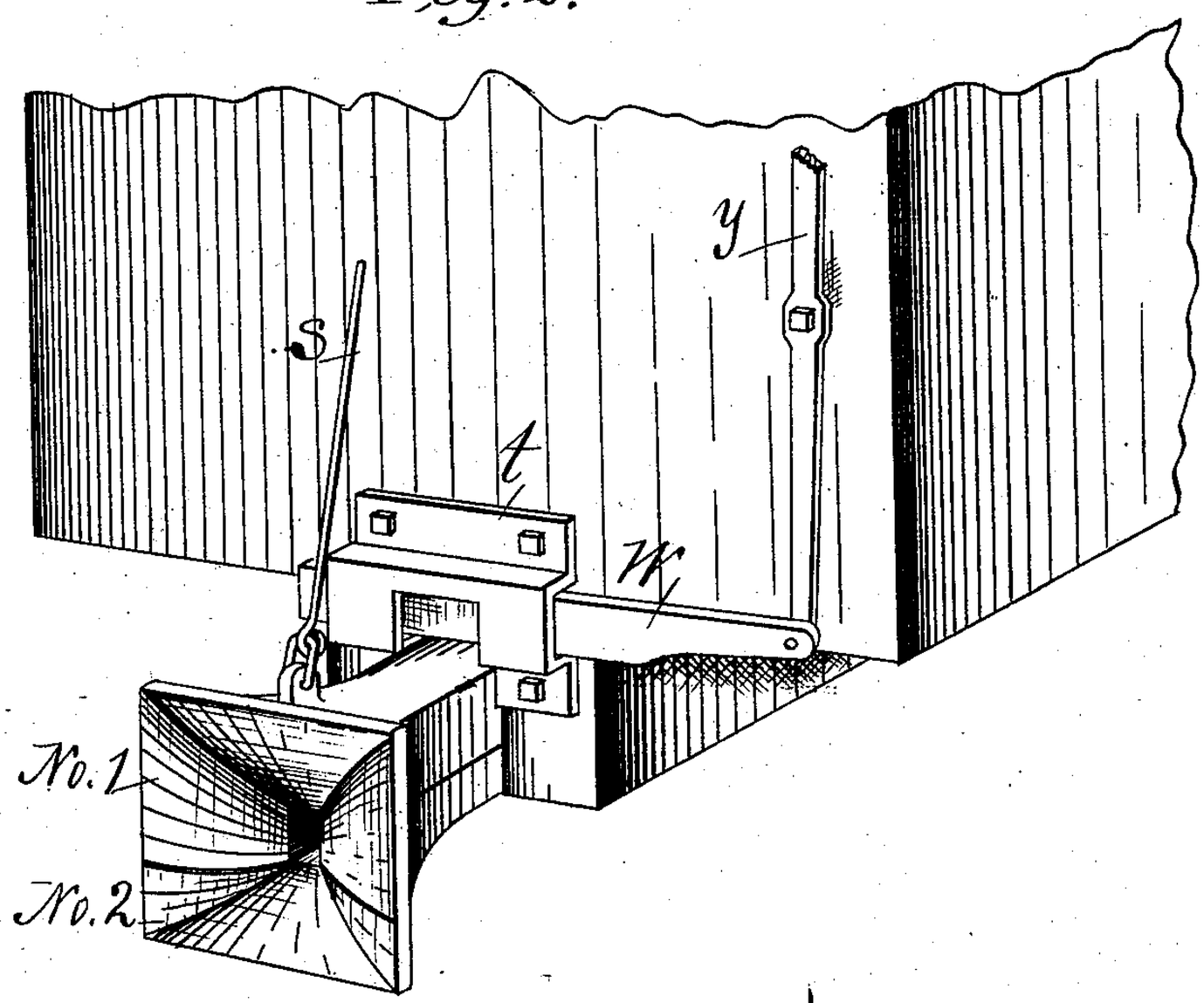


Fig. 2.



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UNITED STATES PATENT OFFICE.

JOHN W. LANGFITT, OF REDFIELD, IOWA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 260,759, dated July 11, 1882.

Application filed February 6, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. LANGFITT, of Redfield, in the county of Dallas and State of Iowa, have invented an Improved Car Coupling and Lock, of which the following is a specification.

The objects of my invention are to avoid the dangers, accidents, and loss of life and property incident to the use of coupling devices on railway-cars that require persons to go between cars to couple and uncouple them when connected with a locomotive and train; to prevent a car from being automatically coupled when desired, and to lock a coupling-link to a draw-head to prevent accidental uncoupling whenever it seems necessary in moving a car or train by means of a locomotive-engine.

It consists, first, in dividing a draw-head longitudinally in such a manner that the upper portion will act like a jaw, by force of gravity, to engage the head of a coupling-link that moves and rests upon the lower portion of the same draw-head; second, in combining a locking-bar with a car and draw-head in such a manner that the vertically-moving section and jaw of the draw-head can be readily locked down upon the lower section to close the mouth of the draw-head, as required, to prevent the head of a coupling-link from entering, to thereby make it inoperative as an automatic coupler, or, as required, to fasten the head of the pin to prevent accidental uncoupling, all as hereinafter set forth.

Heretofore draw-heads have been divided longitudinally in such a manner that a barb-headed link would, under longitudinal pressure, lift the upper jaw and allow the head of the link to advance between the jaws into a cavity to engage both the upper and lower jaws. By my manner of forming a cavity and shoulder in the upper jaw only and a smooth surface on the upper side of the lower jaw, I adapt the complete device to be automatically coupled and also uncoupled in case of accident by force of gravity.

Figure 1 of the accompanying drawings is a longitudinal half-section of my coupling, and Fig. 2 is a perspective view of my coupling and locking device combined on a car. Together these figures clearly illustrate the construction, application, and operation of my complete invention.

A represents a car.

B is a frame fixed to the bottom of the car to support my divided draw-head in such a manner as to allow it longitudinal play.

c represents a cavity or parallel openings in the sides of the frame B.

d d are cross-heads extending transversely through the cavity or openings *c*.

f is the rear end of the draw-bar, passed through the cross-heads *d*, and then secured thereto by means of a bolt, *g*, or in any suitable way.

h is a coiled spring and buffer, placed upon the end of the draw-bar *f* and between the sliding cross-heads *d*.

No. 1 is the upper jaw of the draw-head, formed integral with the rear end and bar *f*. It has a cavity, *i*, in its central portion, adapted to receive and retain the head of a link, a contracted throat, *k*, and a flaring lip, *m*.

No. 2 is the lower section of the draw-head, hinged to the rear end of the section No. 1 by means of plates or ears *n*, that may be cast integral therewith or fixed thereto in any suitable way. It has a throat and lip corresponding with the upper No. 1 section, but no cavity to admit the head of a coupling-link.

r is a cross-piece fixed to the frame B, to support the complete draw-head and to retain the hinged section in a horizontal position and level relative to the car and track.

s represents a rod or chain connected with the front end and upper lip of the draw-head and to a lever attached to the car in such a manner that the section and jaw No. 1 can be readily lifted therewith without going between the cars.

t is a bifurcated plate, fixed to the front end of the car and the frame B in such a manner that it will form a bearing to govern the vertical movements of the jaw No. 1, and also a loop within which to slide a bar or bolt to lock the same jaw down upon the hinged under section and jaw No. 2, that rests upon the cross-bar *r*.

w is a bolt that slides horizontally in the loop *t* over and across the movable jaw No. 1.

y is a lever pivoted to the front of the car,

and connected with the locking-bolt *w* in such a manner that the bolt can be readily operated by means of the lever without going between the cars.

In the practical operation of my invention a link, *x*, having a barb or head at each end, is placed between the jaws No. 1 and No. 2 of my draw-head, as shown in Fig. 1, by simply pushing it through the mouth and throat with sufficient force to lift the jaw No. 1 so as to allow the head of the link to enter the cavity *i*. The jaw No. 1 will, by force of gravity, close down upon the jaw No. 2 and retain the head of the link and hold the complete link in a horizontal position, so that its opposite end and head will project to enter a corresponding draw-head on another car, whenever the two cars come together on the track, to automatically couple them together.

To lock a link fast in the draw-head, I simply slide the bolt *w* over the jaw No. 1, as shown in Fig. 2. To make the draw-head inoperative, as required, to prevent coupling, I withdraw the link and lock the jaw No. 1 in the same manner as I do for retaining a link and preventing accidental uncoupling, or retain the jaw No. 1 elevated by means of the rod *s* and the lever connected therewith.

In case of a car getting off the track and ditched, or in falling through a bridge, its downward pressure upon the end of the coupling-link connected therewith will cause the link to act like a lever of the first order to pry up the jaw No. 1 of the draw-head on the contiguous car sufficiently to allow the head of the link to escape from the cavity *i*, and thus become automatically uncoupled to prevent a falling car from dragging down and damaging the other part of the train.

I claim as my invention—

1. In a car-coupling, the combination of an upper section and jaw No. 1, having a flaring lip, *m*, a throat, *k*, and cavity *i*, with a corresponding lower jaw No. 2, having a smooth top surface to operate, by force of gravity, in admitting, holding, and liberating the barb or head of a coupling-link, substantially as shown and described, for the purposes specified.

2. The locking device *s t w y*, in combination with a vertically-moving section and jaw No. 1 of a draw-head, substantially as shown and described, to operate in the manner set forth, for the purposes specified.

3. The improved car-coupling, consisting of the longitudinally-divided draw-head No. 1 and No. 2, having a mouth, a throat, and a cavity, *i*, and a smooth top surface on the lower jaw, adapted to admit and retain the barb or head of a coupling-link, and a rear extension or bar, *f*, a supporting-frame and buffer device, and a locking device, *s t w y*, substantially as shown and described, to operate in the manner set forth, for the purposes specified.

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